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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,405	06/24/2003	Christ Pher Oriakhi	200300746-1	4185

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EXAMINER

MARCANTONI, PAUL D

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,405

Applicant(s)

ORIAKHI ET AL.

Examiner

Paul Marcantoni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 42-52 is/are pending in the application.
- 4a) Of the above claim(s) 12-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 42-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The applicants RCE and response filed 9/9/05 has been considered and is not persuasive.

Rejection under 35 USC 103:

Claims 1-11 and 42-52 are rejected under 35 USC 103(a) as obvious over Bredt et al. (US Pub No. 2001/0050031) alone or in view of Jang et al. or and Unsin '474 B1.

Note: Popoola et al. (abstract only Jrnl Materials Rsch-1982) has been withdrawn.

Bredt et al. teach a method of making a three dimensional object by mixing calcium aluminate (p.2, col.2, second to last paragraph), and a printing aid such as polyethylene glycol thus anticipating the instant invention. Bredt et al. further teach that "successive layers of the mixture of particles are applied to previous layers in the same manner" (see paragraph [00009] on page 1). Also, overlapping ranges of amounts would have been prima facie obvious to one of ordinary skill in the art.

Jang et al. '406 teach it is old in the art to add a colorant (or pigment or dye) to a three dimensional object such as a cementitious containing material because one of ordinary skill in the art would have the obvious design choice for decorative or aesthetic purposes. It is conventional and thus old in the art to add colorants such as pigments to cementitious compositions and would have been thus obvious to add a colorant or pigment or dye to the calcium aluminate cementitious material of Bredt et al.

Unsin teaches it is known and old to add a lithium accelerator such as lithium carbonate for cements including aluminate cement (see col.3, line 18).

Response:

The applicants argue that the examiner has not presented a proper case of prima facie obviousness under 35 USC 103. The examiner has done so and provided reasons or motivation to ^{why} ~~way~~ it would have been obvious to combine the primary and secondary references. The examiner disagrees with applicants' position that a composition claim was being addressed. The examiner notes that he addressed the applicants' claimed method for making a three dimensional object.

The applicants state that Bredt et al. (hereafter Bredt) teach a change in the sequence of adding the polyol containing liquid (e.g. polyethylene glycol) and add it before printing to provide adhesion between the grains and reduce dusting. The applicants opine that the Bredt reference is devoid of teaching othat the printing aid "can be deposited onto the filler material". The examiner respectfully disagrees. Applicants are referred to page 2, paragraph [0021] of Bredt wherein it teaches that the printing aid (inclusive of polyethylene glycol, the same as applicants so labeled "polyol containing liquid vehicle) can be dispersed throughout the filler, the filler of course being a material such as calcium aluminate. It is most certain that if the polyethylene glycol printing aid (or polyol liquid vehicle) is dispersed throughout the filler it had to have been uniformly mixed with the filler (ie calcium aluminate). If it was thus dispersed throughout the filler by uniform mixing then it is most certain that the printing aid was deposited onto the filler material. How could the polyethylene glycol liquid vehicle or printing aid be mixed with calcium aluminate filler and not be deposited on the surfaces of that material? It is evident that the polyethylene glycol has to be deposited on the calcium aluminate filler

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by the simple action of mixing and dispersion throughout the filler by the printing aid or liquid vehicle.

It is thus clear that Bredt teaches a polyol liquid vehicle or printing aid such as polyethylene glycol may be mixed with a filler such as calcium aluminate and the mixing action of these two components would lead to crosslinking upon the further addition of water. It is further the examiner's position that the change in the sequence of adding the ingredients or components including calcium aluminate filler, printing aid or liquid vehicle, and water would have been obvious to one of ordinary skill in the art. Changes in the sequence of adding ingredients would have been obvious to one of ordinary skill in the art absent evidence to the contrary. *In re Gibson*, 5 USPQ 230. Further, the eventual addition of water to the other components will not only begin the crosslinking reaction between the polymeric material but the hydration of the cement. Also, it should be noted that Bredt also teach the use of polyvinyl alcohol as a solvent [0015] so the crosslinking is also inclusive of this material. Regardless of the sequence of adding ingredients, Bredt, like applicants, results in a crosslinked and hydrated cement wherein "successive layers of the mixture of particles are applied to previous layers in the same manner" (see p.1, [0009]).

The applicants' comments regarding case law is not understood since it would appear he did not cite any case law. He has cited case law above however. The applicants also argue Jang but for the wrong purpose or motivation to combine the ~~references~~ ^{references}. Jang has been only cited to teach that the use of a colorant in a cement

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composition is old and conventional in the art. Unsin teaches that it is old to add a lithium accelerator for cements such as calcium aluminates.

The applicants argue that it might be known in the *traditional* cement art to use an accelerator but not in the alleged non-traditional art of applicants' claimed invention which uses a calcium aluminate cement. In rebuttal, it would have been well understood by one of ordinary skill in the art and an obvious design choice to add an accelerator to any hydraulic cement composition including calcium aluminate to accelerate the hardening of the cement composition. The applicants' calcium aluminate cement is still a hydraulic cement and it would thus be old, conventional, and traditional to use an accelerator such as a known lithium accelerator to increase the rapidity of the hardening of the cement composition.

This is a RCE of applicant's earlier Application No. 10/603,405. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Marcantoni
Primary Examiner
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